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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,918	12/08/2003	Friedrich Endress	Q78378	9687
23373	7590	12/30/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			STEIN, JULIE E	
			ART UNIT	PAPER NUMBER
			2688	

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/728,918	ENDRESS, FRIEDRICH	
	<b>Examiner</b>	<b>Art Unit</b>	
	Julie E. Stein, Esq.	2688	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "323 and 130" have been used to designate both "detecting means" and deterioration means" and "deterioration means" and "calculating means," respectively. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to because they do not contain labels, for example, indicating the various steps in Figure 2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being

amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Specification***

4. The disclosure is objected to because of the following informalities: the above identified reference characters need to be both clarified in the drawings and in the specification. For example, reference character 130 is referred to as "calculating means" on page 7 and as "deterioration means" on page 10.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-10, and 13-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. In claim 1, there is no definition of the relationship between the performance samples and the equation recited, thus the claim is indefinite.

8. Claim 3 recites "proper installation," which is vague and thus renders the claim indefinite.

9. Claims 8 and 9 do not positively recite additional limitations, instead, the terms, "in the case" and "preferably" are used, rendering the claim vague and indefinite.

10. Claim 13 is indefinite because of its recited dependency off of claim 9. Claim 13 recites a "monitoring means according to claim 9", however, claim 9 does not recite a monitoring means.

11. Claim 14 recites "with the help of," this term is vague and thus renders the claim indefinite.

### ***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

13. Claims 1-4 and 10-12 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,754,475 to Harrison et al.

Harrison discloses all the steps of independent claim 1, including: method for monitoring the performance of an antenna device (abstract) comprising the steps of:

measuring from time to time the performance of the antenna device for achieving performances samples with  $1 \leq l \leq n$  (column 6, lines 1 to 10 and column 7, lines 16 to 44),

watching the variation of said performance sample over the time (column 7, lines 15 to 18); and

detecting a deterioration in the performance of the antenna device depending on the amount of said variation (column 7, lines 39 to 44).

The rejection of claim 1 is hereby incorporated. Harrison also discloses all the elements of independent claim 10, including: monitoring means for monitoring the performance of an antenna device (Figure 2 and column 6, lines 1 to 10), comprising:

a measuring means for measuring from time to time the performance of the antenna device for achieving performance samples  $p_i$  with  $1 \leq l \leq n$  (Figure 2, elements 216 and 203);

a watching means for watching the variation of said performance samples  $p_i$  over the time (Figure 2, element 211); and

a detecting means for detecting a deterioration in the performance of the antenna device depending on the amount of said variation (Id.).

Harrison also discloses all the steps/elements of dependent claims 2 and 11, including storing at least two of said performance samples  $p_i$  (column 6, lines 1 to 10, it is inherent that the relative metric computer 211 would include a memory for storing the performance samples) and calculating the variation of two of said performance samples  $p_i$  by calculating the difference thereof (column 7, lines 16 to 44).

Harrison also discloses all the steps of dependent claim 3, including wherein one of said two performance samples is an initial performance sample measured immediately after a proper installation of the antenna device or a previous performance sample measure before a last calculating step (column 6, lines 1 to 10 and/or column 7, lines 16 to 44, which describe using two channel metrics, which have been measured at different times, each of the channel metrics has gone through calculating steps).

Harrison also discloses all the steps of dependent claim 4, including wherein a first one of said performance samples is the previous performance sample and the second one of said performance samples is a new performance sample measured during a last measurement. See column 7, lines 16 to 44.

Harrison also discloses all the steps of dependent claim 12, including wherein the detecting means comprises a comparator means for comparing said differences with a predetermined threshold value. See column 10, lines 5 to 25, specifically, lines 5 to 11.

### ***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison in view of U.S. Patent No. 5,590,415 to Peltola et al.

Harrison teaches all the steps of dependent claim 5, except wherein in the case that the difference between the previous and the new performance sample exceeds a predetermined first threshold value the deterioration in the performance of the antenna device is detected and a first type of alarm is generated. But Peltola teaches an antenna measuring performance system that uses two alarms to indicate that two different thresholds have been met. See column 2, lines 6 to 15, lines 29 to 35, and column 3, lines 41 to 61. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Harrison to include various alarms that would sound as given thresholds were met in order to improve the supervision of the condition of the antennas. See Peltola, column 2, lines 1 to 5.

16. Claims 6, 9, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison in view of U.S. Patent No. 6,310,579 to Meredith.

Harrison teaches all the steps of dependent claim 6, except wherein a first one of said performance samples is the initial performance sample and a second one of said performance samples is a new performance sample measured during a last measurement. However, Meredith teaches a method of testing/calibrating a base station antenna apparatus. See abstract. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Harrison to include an initial measuring of a performance sample following a calibration of the



antenna (e.g. proper installation), because this would provide a reliable and accurate indication of the antenna performance. See, Meredith column 2, lines 59 to 62.

Harrison teaches all the steps of dependent claim 9, except wherein in the case that the antenna device is a radio transmitter the performance samples represent a transmitted signal quality parameter, preferably the VSWR-parameter. However, Meredith teaches that the parameter being tested is the VSWR-parameter and that the VSWR is an important factor that affects the performance characteristics of an antenna. See column 1, lines 9 to 13 and lines 54 to 65. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Harrison to use the VSWR-parameter as a antenna performance parameter because the VSWR shows inefficient transfer of energy between the base station and a remote wireless receiver and thus indicates a problem with the antenna. See, Meredith column 1, lines 54 to 65.

Harrison in view of Meredith teach all the steps of dependent claim 13, including a radio base station having a transmitter and/or receiver each being connected to an antenna device (Harrison, Figure 3) and having monitoring means (Harrison, column 9, lines 15 to 59, specifically element 305) according to claim 9.

17. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison in view of Meredith as applied to claim 6 above, and further in view of Peltola.

Harrison in view of Meredith teaches all the steps of dependent claim 7, except wherein in the case that the difference between the new and the initial performance sample exceeds a predetermined second threshold value the deterioration in the

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performance of the antenna device is detected and a second type of alarm is generated. But Peltola teaches an antenna measuring performance system that uses two alarms to indicate that two different thresholds have been met. See column 2, lines 6 to 15, lines 29 to 35, and column 3, lines 41 to 61. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Harrison in view of Meredith to include various alarms (including a second alarm) that would sound as given thresholds were met in order to improve the supervision of the condition of the antennas. See Peltola, column 2, lines 1 to 5.

18. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison in view of U.S. Patent Application Publication No. 2002/0086648 to Wilhelmsson et al.

Harrison teaches all the steps of dependent claim 8, except wherein in the case that the antenna device is a radio receiver the performance samples represent a received signal quality parameter, preferably the RSSI-parameter. However, Wilhelmsson teaches a method of determining a change in received power of a given system (including antennas) over time. See abstract and paragraph 16. In addition, Wilhelmsson also teaches that the RSSI-parameter is used as the measured parameter. See paragraph 14. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Harrison to use the RSSI-parameter as a performance sample measurement because a comparison of the RSSI-parameter would allow the system of Harrison to optimize switching between antennas when the changes in performance sample over time went above a given threshold. See Wilhelmsson, paragraph 16 to 17.

19. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison in view of U.S. Patent Application Publication No. 2003/0162539 to Fiut et al.

The rejections of claims 1-4 and 10-12 are hereby incorporated. Harrison teaches all the elements of independent claim 14, including mobile radio system (abstract) comprising:

a base station (Figure 3), having a transmitter and/or a receiver (Figure 3, elements 316 and 330) each of which being connected to an antenna device (Figure 3, elements 302 and 334) and each base station having a measuring means for measuring from time to time the performance of the antenna device for achieving performance samples  $p_i$  (column 9, lines 16 to 60), a storage means for storing at least two of said performance samples (Figure 3, element 305 would inherently include a memory in which to store the received performance sample measurements); and sample transmitting means (Figure 3, element 316) for transmitting said performance samples or differences of two of said performance samples, and for evaluating said performance samples or said differences thereof in order to detect a deterioration of the performance of the antenna devices of the base stations (column 7, lines 39 to 44).

However, Harrison does not explicitly teach a plurality of base stations that transmit performance samples to a remote evaluation unit; and at least one control station for controlling the operation of said base stations; said control station comprising an evaluation unit for receiving said performance samples  $p_i$  or differences thereof with the help of a receiving unit from the sample transmitting means of the base stations.

But Harrison does teach a receiving unit within a base station that may receive performance samples and transmitting means for transmitting a control signal, which is a function of the difference in performance samples. See Figure 3, elements 330 and 316, and column 9, lines 38 to 44. In addition, Fiut teaches a system that allows remote monitoring of wireless base stations. See abstract and Figure 2. Fiut also teaches acquiring a plurality of measurements, including antenna parameters, related to the base stations and transmitting the measurements to a remote central location, which may include a remote base station management system. See, paragraphs 13-14, 26, and 32. The RBMS is also capable of performing analysis on the measurements and if the RBMS is a MTSO (paragraph 32) then the remote central location would also control the base stations. See paragraphs 3 and 25-26.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Harrison to include the functionality of using a remote central location, including a control station, to evaluate the performance samples because remote monitoring of the base stations allows for timely detection of problems and quicker response by technicians. See Fiut, paragraphs 5 to 6.

20. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison in view of Fiut as applied to claim 14 above, and further in view of Peltola.

Harrison in Fiut teach all the elements of dependent claim 15, including wherein the evaluation unit is embodied to calculate the difference between two received performance samples  $p_i$  if said difference has not already been calculated in the base station. See, Harrison, column 7, lines 16 to 44.

But, Harrison in view of Fiut does not explicitly teach generating an alarm in the case that the difference between two performance samples exceeds a predetermined threshold value. However, Peltola teaches an antenna measuring performance system that uses two alarms to indicate that two different thresholds have been met. See column 2, lines 6 to 15, lines 29 to 35, and column 3, lines 41 to 61. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Harrison in view of Fiut to include various alarms that would sound as given thresholds were met in the evaluation unit, in order to improve the supervision of the condition of the antennas. See Peltola, column 2, lines 1 to 5.

### ***Conclusion***


21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 6,188,879 to Imamura teaches a system for testing antennas, which uses alarms to indicate when thresholds are met or exceeded; and U.S. Patent Application Publication No. 2003/0228857 to Maeki teaches using RSSI to determine the performance of an antenna.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie E. Stein, Esq. whose telephone number is (571) 272-7897. The examiner can normally be reached on M-F (8:30 am-5:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JES

  
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SUPERVISORY PATENT EXAMINER